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A new record of *Coelichneumon rufofemoratus* (Cameron, 1903) (Hymenoptera: Ichneumonidae) from Eastern Himalayas, with a checklist of all the species of the genus from the Oriental region

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Abstract

Coelichneumon rufofemoratus (Cameron, 1903) of the Darwin wasp subfamily Ichneumoninae, previously known from Indian and Burmese Himalayas, is newly recorded from Yunnan, China, and a complete history of the name with nomenclatural notes is provided. A complete checklist of the species of *Coelichneumon* for the Oriental region is also presented.

Key words: Darwin wasp, Yunnan, Eastern Himalaya, biodiversity

Introduction

Ichneumoninae is the largest subfamily of Darwin Wasps, comprising more than 4300 species in 430 genera (Yu *et al.* 2016; Santos *et al.* 2021). The subfamily is divided into 7 monophyletic tribes, of which Ichneumonini comprises the vast majority of the genera and species (Santos *et al.* 2021). Among these genera, *Coelichneumon* Thomson, 1893 is one of the largest, comprising 239 species (Appendix 1), 9 of which are recorded for the Australasian region, 50 for the Nearctic, 8 for the Neotropics (only Central America), 71 for the Oriental region, and all the others (>120) from the Palearctic (Riedel 2013, 2017; Yu *et al.* 2016, Riedel & Aghadokht 2017, Riedel 2021, 2023, Riedel & Watanabe 2021). Members of the genus are, as of now, still unknown from South America and tropical Africa (Yu *et al.* 2016). In China, 14 species have been previously recorded (Riedel 2021), and among them *C. ocellus* (Tosquinet, 1903), *C. flavolineatus* Cameron, 1903, *C. parachinicus* Riedel, 2013 and *C. pterostigmator* Riedel, 2013, are the only known from Yunnan Province (He *et al.* 1996; Riedel 2013).

In the current contribution, we record *C. rufofemoratus* (Cameron, 1903) from Yunnan Province, which was previously known only from Indian and Burmese Himalayas (Cameron 1903a, Heinrich 1966) (Fig. 1B). The specimen marks also the first record of the species from China, and we provide a redescription of the species based on the newly collected material, nomenclatural notes on the type species of the genus and on the original type series of the species. A comprehensive checklist of the species of *Coelichneumon* from the Oriental region is presented, with reference for their distribution.



Figures 1. Distribution of *Coelichneumon rufofemoratus* (Cameron, 1903) and sampling site in the Eastern Himalayan region. **A**, Sampling site on the Mt. Lasha, Laming district, Yunnan Province, P. R. China; **B**, Distribution of *Coelichneumon rufofemoratus* (Cameron, 1903) in the Himalayan region.

Material and methods

Photographs and mapping

Specimens were examined using the Motic SMZ171 stereomicroscope. Images were acquired digitally using the Leica M205 C stereomicroscope with a DMC5400 Camera, stacked in LASX (ver. 3.7.4.23463), and processed in Adobe Photoshop. Distribution maps were produced using Google Earth Pro.

Treatment of taxa

Morphological terminology and nomenclature of wing venation follows Broad *et al.* (2018) and are aligned with the Hymenoptera Anatomy Ontology (HAO) (Yoder *et al.* 2010). The following abbreviations and morphological terms are used in the text: **T1–T7**: refers to the metasomal tergites 1–7.

POL: the shortest distance between the posterior lateral ocelli

OD: the longest diameter of a posterior lateral ocellus

OOL: the shortest distance between a posterior lateral ocellus and a compound eye

List of depositories

IEHBR—Institute of Eastern-Himalaya Biodiversity Research, Dali University, Yunnan, P.R. China.

NHMUK—The Natural History Museum, London, UK.

OUM—Oxford University Museum of Natural History, London, UK.

Results

Taxonomy

Coelichneumon Thomson, 1893

Ichneumon (*Coelichneumon*) Thomson, 1893: 1901–1902. Type species originally *Ichneumon lineator* Fabricius, 1781, by subsequent designation by Ashmead (1900: 15). This type species was set aside because it was misidentified, and a new type species *Ichneumon comitator* Linnaeus, 1758, was fixed under article 70.3.2 of ICZN (1999) by Horstmann (2005: 1259–1260).

Aglaojoppa Cameron, 1901: 381–382. Type species *Aglaojoppa flavomaculata* Cameron, 1901, by original monotypy.

Cyanojoppa Cameron, 1902: 398. Type species *Cyanojoppa rufofemorata* Cameron, 1902, by subsequent designation by Viereck (1914).

Lodryca Cameron, 1904a: 223. Type species *Lodryca lineaticeps* Cameron, 1904, by original monotypy.
Shalisha Cameron, 1904a: 221–222. Type species *Shalisha fulvipes* Cameron, 1904, by original monotypy.
Spiljojoppa Cameron, 1904b: 208. Type species *Spiljojoppa fulvipes* Cameron, 1904, by original monotypy.

Remarks. The genus *Coelichneumon* is currently divided into three subgenera: *Coelichneumon* (*Coelichneumon*), *Coelichneumon* (*Exephanides*), *Coelichneumon* (*Intermedichneumon*) and *Coelichneumon* (*Taphanes*) (Yu *et al.* 2016). These subgenera are not always employed or mentioned by taxonomists (e.g., Riedel & Watanabe 2021), and they can be potentially synonymized under the nominotypical subgenus in the future. Nevertheless, for the scope of this paper, we have chosen to adhere to the classification proposed by Yu *et al.* (2016).

The original type species for *Coelichneumon* was designated by Ashmead (1900: 15) as “*Ichneumon lineator* Gravenhorst”. However, Gravenhorst, never described *Ichneumon lineator* and in his work (Gravenhorst 1820: 283), he mentioned “*Ichneumon lineator* Fabr.” Later on, Carlson (1979: 530) interpreted *Ichneumon lineator* sensu Gravenhorst (1820: 283) as a misidentification of *Ichneumon comitator* Linnaeus, 1758. Later on, Horstmann (2005: 1259–1260) explained the nomenclatural problem and by invoking article 70.3.2 of the Code (ICZN 1999), the author validly fixed *Ichneumon comitator* Linnaeus, 1758 as the type species for *Coelichneumon* Thomson, 1893.

Biology. The members of the genus *Coelichneumon* are known to be koinobiont endoparasitoids of various lepidopteran larvae (Shaw *et al.* 2015; Cheraghi & Esfandiari 2016; Yu *et al.* 2016). Their oxygygous metasoma has been hypothesized to be correlated to oviposition into pupae (Heinrich 1961; Heinrich 1977; Hinz 1983; Hilpert 1992; Santos *et al.* 2021), however, as suggested already by Dal Pos *et al.* (2023), characters are yet to be carefully assessed in a comparative study, taking into consideration the phylogeny and the internal organization of the structures, to draw any conclusion.

***Coelichneumon* (*Coelichneumon*) *rufofemoratus* (Cameron, 1903)**

Figs 1–3

Cyanojoppa rufo-femorata [sic] Cameron, 1903a: 9–10 (description); Viereck, 1914: 40 (type species designation); Heinrich, 1937: 263 (nomenclatural notes). Incorrect original spelling of *Cyanojoppa rufofemorata* Cameron, 1903 (ICZN, 1999: article 32.5.2.3).
Cyanojoppa rufofemorata Cameron, 1903; Berthoumieu, 1904: 24 (catalogue); Heinrich, 1937: 263 (nomenclatural notes);
Cyanojoppa coeruleicaudis Cameron, 1903a: 10–11 (description); Berthoumieu, 1904: 24 (catalogue); Heinrich, 1937: 263 (nomenclatural notes). Synonymize by Heinrich (1937: 263).
Cyanojoppa nigro-coerulea [sic] Cameron, 1903a: 12–13 (description); Townes *et al.*, 1961: 408 (lectotype designation). Incorrect original spelling of *Cyanojoppa nigrocoerulea* (ICZN, 1999: article 32.5.2.3).
Cyanojoppa nigrocoerulea Cameron, 1903; Berthoumieu, 1904: 24 (catalogue); Heinrich, 1937: 263 (nomenclatural notes). Synonymized by Heinrich (1937: 263).
Cyanojoppa striata Cameron, 1903b: 176–177 (description); Berthoumieu, 1904: 24 (catalogue); Heinrich, 1937: 263 (nomenclatural notes). Synonymize by Heinrich (1937: 263).
Coelichneumon striatus (Cameron, 1903); Morley, 1915: 123, 124 (distribution, key).
Coelichneumon nigrocoeruleus (Cameron, 1903); Morley, 1915: 123, 124 (distribution, key, remarks).
Coelichneumon rufofemoratus (Cameron, 1903); Morley, 1915: 123–124 (distribution, key, remarks).
Coelichneumon coeruleicaudis (Cameron, 1903); Morley, 1915: 123, 124 (distribution, key, remarks).
Ichneumon rufofemoratus (Cameron, 1903); Townes *et al.*, 1961: 408 (catalogue, remarks).
Coelichneumon (*Coelichneumon*) *rufofemoratus* (Cameron, 1903); Heinrich, 1966: 200, 243–244. (diagnosis, key; distribution, redescription); Yu & Horstmann, 1997: 522 (catalogue); Yu *et al.*, 2016 (catalogue).
Ichneumon (*Ichneumon*) *rufofemoratus* (Cameron, 1903); Gupta, 1987: 1003–1004 (catalogue); Gupta, 1988: 336 (distribution); Jonathan, 1995: 109 (distribution); Jonathan, 1999: 411 (distribution); Jonathan, 2003 (distribution).
Coelichneumon (*Coelichneumon*) *rufofemorata rufofemorta* [sic] (Cameron, 1903); Singh *et al.*, 2021: 344. (checklist, distribution). Incorrect subsequent spelling of *Cyanojoppa rufofemorata* Cameron, 1903 (ICZN 1999: article 33.3).

Original type series

Cyanojoppa rufofemorata: Lectotype ♀, from Simla (India) (NHMUK).

Cameron (1903a: 9–10) described the species without specifying the number of females included in the type series, and without referring to any of the specimens as “the type” or the “holotype”. Later on, Morley (1915: 123–124) referred to the specimen as “*the type*” which he personally examined giving specifics of its label information. This latter action constitutes a valid lectotype designation following ICZN (1999: 74.5).



Figures 2. Female *Coelichneumon rufofemoratus* (Cameron, 1903). Habitus, in lateral view.

Cyanojoppa coeruleicaudis: Lectotype ♀, from Khasia (India) (OUM).

Cameron (1903a: 10–11) described the species without specifying the number of females included in the type series, and without referring to any of the specimens as “the type” or the “holotype”. Later on, Morley (1915: 124) referred to the specimen as “*the type*” which “*has the scutellum apically white-dotted on the side only*”. This latter actions constitutes a valid lectotype designation following ICZN (1999: 74.5).

Cyanojoppa nigrocoerulea: Lectotype ♀, from Darjeeling (West Bengal, India) (NHMUK).

Cameron (1903a: 12–13) described the species from “*Khasia*” in the Rothney collection, without specifying the number of females and males included in the type series, and without referring to any of the specimens as “the type” or the “holotype”. Later on, Morley (1915: 124) noticed that in the NHMUK there is a specimen labels as “*nigrocoerulea, the type Darjeeling*” which does not bear any relationship with what Cameron (1903) claimed in his original type location. Later on, Townes *et al.* (1961: 408) referred to the specimen from Darjeeling as the lectotype, clearly fullfilling ICZN (1999: article 74.5) for a valid lectotype designation. It remains unclear if there are other specimens on this species labelled as “*Khasia*” in other museums or if it is just a mistake made by Cameron (1903a).

Cyanojoppa coeruleicaudis: Syntypes ♂, from Khasia Hills (India) (NHMUK).

Cameron (1903b: 176–177) described the species without specifying the number of males included in the type series, and without referring to any of the specimens as “the type” or the “holotype”. Later on, Morley (1915: 124) referred to one specimen as “*Khasi hills (Rothney, type in the British Museum)*”. This latter action cannot constitute a lectotype designation following ICZN (1999: 74.5). In fact, Morley (1915) did not unambiguously select a particular specimen, nor he has used the term “lectotype” or “the type”. Therefore, the specimens should be referred to as syntypes.

Material examined. CHINA: ♀, Yunnan, Lanping district, Mt. Lasha, 26.324161 99.256617, 2700m., Malaise trap, Trap ID2, Sample ID 564, 11–26 Aug. 2019, Alexey Reshchikov leg., DLU012239, det. D. Dal Pos, 2023 (IEHBR).

Diagnosis. The species can be easily distinguished from all other *Coelichneumon* species by the following combination of characters: (1) Flagellar annulus present; (2) sides of the face and clypeus white; (3) prescutellar bars with white (ivory) coloration; (4) metasoma bright metal-blue; (5) hind femur red; (6) hind tibia and tarsus black.

Description

♀: Body length 14 mm (Fig. 2). Flagellum lanceolate, with 41–43 flagellomeres (Fig. 2); 1st and 2nd flagellomeres 1.7× longer than wide, combined length c.0.4× eye length, 9th flagellomere square, flagellum beyond the middle attenuated and strongly widened, widest flagellomeres 2.0–2.5× wider than long. Temple roundly narrowed behind the eye. POL 0.8× OOL, and 1.0× OD. Frons and vertex with roughly punctate surface structure, with rather dense punctures. Face densely punctate, shining, covered with white setae (Fig. 3A). Clypeus with scattered punctures, smooth and shining. Upper mandibular tooth longer than lower (Fig. 3D). Malar space as long as 0.6 width of mandibular base. Gena rather broad, c.1.0× as wide as eye, with dense punctures (Fig. 3C). Genal carina reaching hypostomal carina away from mandibular base.

Mesosoma covered with white setae (Fig. 3B). Notaulus shallowly impressed anteriorly. Mesoscutum with sparse punctures, and shining. Mesopleuron with coarse punctures; speculum large, smooth and shining. Metapleuron with rather dense punctures; juxtacoxal carina strong. Scutellum almost as long as wide, with lateral carina defined basally, with scattered punctures (Fig. 3G). Propodeum short, rounded. Area superomedia slightly elevated, sickle-shaped, about 2× wider than long, with finely rugose surface, separated from area basalis; anterior transversal carina caudal to its middle (Fig. 3F). Area externa with scattered punctures and some fine rugae. Hind coxa densely punctate. Hind femur 4.0× longer than wide, with dense punctures in ventral half. Tarsi slender, hind basal tarsomere 3.7× longer than wide. Areolet pentagonal; vein 2m-cu with ramulus below its middle (Fig. 3L). Vein 1cu-a postfurcal (Fig. 3L).

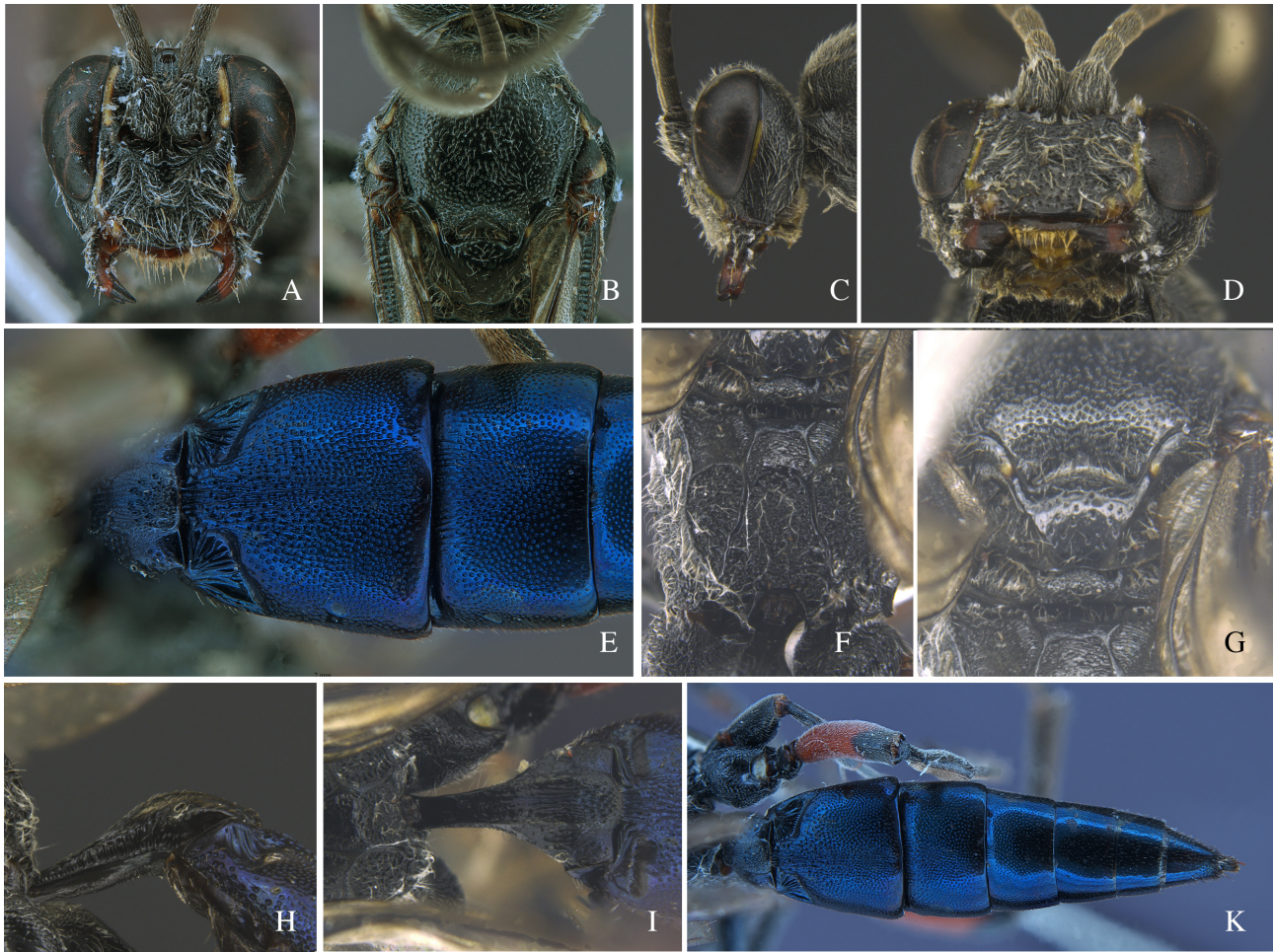
Metasoma strongly oxygygous (Fig. 3K). Postpetiolus punctate with some coarse striae and rugose punctures (Fig. 3I). T2 1.1× wider than long (Fig. 3E). Gastrocoelus strongly impressed (Fig. 3E). Thyridium transverse; interval narrower than median field of postpetiolus (Fig. 3E). T2–4 densely punctate and shining; T2 slightly rounded medially; T5 with superficial sparse and fine punctures, shining. T7 tergite 0.9× wider than long. Laterally ovipositor sheath 1.1× as long as T7. Ovipositor tip slightly angled upwards, with distinct teeth (Fig. 2).

Color: Black (Fig. 2). Metasoma strongly shining blue (Fig. 3E, K). Ivory are stripes on flagellomeres 8–15, narrow stripe of orbit opposite to antenna, narrow stripe of frontal orbit, malar space, lateral spots on clypeus (Fig. 3A), narrow stripe of genal orbit (Fig. C), anterior part of collare, spot on subtegular ridge and tip of tegula (Fig. 3B), spot on scutellar carina (3G). Legs black; inner part of fore tibia yellow; hind femur red in basal 4/5 (Fig. 2). Wings slightly infumate, pterostigma black (Fig. 3L).

Host. Unknown.

Distribution. INDIA: Delhi (Gupta 1988), Himachal Pradesh (Cameron 1903; Gupta 1988), Jammu-Kashmir (Gupta 1988); Meghalaya (Cameron 1903; Morley 1915; Singh *et al.* 2021), Sikkim (Morley 1915; Jonathan 2003; Gupta 1988), Uttaranchal (Morley 1915; Jonathan 1995), Uttar Pradesh (Gupta 1988); West Bengal (Cameron 1903; Morley 1915; Townes *et al.* 1961; Gupta 1988; Jonathan 1999; Riedel 2013); MYANMAR: Chin (Heinrich 1966), Kachin (Heinrich 1966); CHINA: Yunnan (**new country record**).

Remarks. In a recent publication, Singh *et al.* (2021: 344) reported from Meghalaya (India) the subspecies *Coelichneumon (Coelichneumon) rufofemorata rufofemorta* (Cameron 1903). As far as we know, Cameron never described a species nor subspecies with the name *rufofemorta*. Therefore, we consider *rufofemorta* as an incorrect subsequent spelling of *rufofemorata* (Cresson, 1903). Outside of the Singh *et al.* (2021: 344), we are also not aware of any authors treating *C. rufofemorata* as a subspecies nor having established any subspecies for the taxon. Therefore, the name is reinstated to the species-level without the presence of any subspecies-level names.



L

Figures 3. Female *Coelichneumon rufofemoratus* (Cameron, 1903). **A**, face; **B**, mesosoma, in dorsal view; **C**, head, in lateral view; **D**, head, in ventral view; **E**, T2–3, in dorsal view; **F**, propodeum, in dorsal view; **G**, mesoscutellum, in dorsal view; **H**, T1, in lateral view; **I**, T1, in dorsal view; **L**, wings; **K**, metasoma, in dorsal view.

Discussion

Sampling efforts

The Institute of Eastern Himalaya Biodiversity Research conducts several large-scale projects aiming to increase the knowledge about biodiversity in Three Parallel Rivers Region. For terrestrial invertebrates, we run 63 Malaise traps in Northwest Yunnan on permanent basis, including 15 traps around Mt. Lasha, that resulted in 1253 trap-month samples.

Our collection based on extrapolation (Townes 1969) suggests that 5000 species of Darwin Wasps in the region should be expected (Reshchikov personal obs.).

The fact that, among this material, only a single specimen of *C. rufofemoratus* was found, underlines not only the importance of the project but also the necessity for continuous sampling in the area, which is severely understudied. The site where the species was found was a shrubland with *Betula alnoides* Buch.-Ham. ex D. Don, *Uncaria rhynchophylla* (Miq.) Miq., and *Sapium sebiferum* (L.) Dum. Cours. (Appendix 2) at 2700 m. a.s.l. (Fig. 1A).

Diversity of Coelichneumon in the Oriental region

The large number of described species of Darwin wasps, the termination of the most comprehensive database for the family, the Taxapad (Yu *et al.* 2016) and the lack of a new comprehensive updatable database, renders the taxonomic and biodiversity studies of Ichneumonidae rather challenging. As already noted by Broad (2021) and Dal Pos *et al.* (2022), a careful perusal of the literature and future collaborative efforts to build a comprehensive database is essential to ensure the correct compilation of data for the single species. For this reason, we present here a comprehensive checklist of all the species of *Coelichneumon* from the Oriental region, with reference to the authors who recorded them for the different localities. In this way, we hope to facilitate future study of the genus in the area, as well as the integration in future databases. From Table 1, it is pretty clear that most of the records of *Coelichneumon* species in Asia are from the Himalayan Region (Table 1), and other records across Asia are mostly from mountain environments. Thus the *Coelichneumon* genus members show elevational distribution pattern, they can be linked to cool mountain climate in tropical Asia. We also want to specifically highlight the scarcity of specimens for most of the species including our discovery, *C. rufofemoratus* (Cameron, 1903). We hope to bring attention to Darwin Wasp and initiate conservation studies of rare species.

Table 1. Oriental species of *Coelichneumon* and their distribution

Species of <i>Coelichneumon</i>	Distribution record	Reference
<i>C. abnormis</i> Heinrich, 1966	Pyin Oo Lwin (Mandalay Region)	Gupta 1987, Heinrich 1966
<i>C. aglaotypus</i> Heinrich, 1966	Kan Paik Ti (Kachin)	Heinrich 1966
<i>C. albonotatus</i> (Cameron, 1903)	Khasi Hills (Meghalaya), Kan Paik Ti (Kachin)	Townes <i>et al.</i> 1961, Heinrich 1966
<i>C. albopilosellus</i> Cameron, 1905	Sikkim	Cameron 1905, Jonathan 2003
<i>C. annulipes</i> (Cameron, 1905)	Sikkim	Cameron 1905, Jonathan 1999
<i>C. bacillus</i> Heinrich, 1967	Khonumthung (Chin),	Gupta 1987, Heinrich 1967
<i>C. birmanicus</i> Heinrich, 1966	Khonumthung (Chin), Mt Popa, Pyin Oo Lwin (Mandalay Region)	Gupta 1988, Heinrich 1966
<i>C. bivittatus</i> (Matsumura, 1912)	Guizhou, Jiangxi	Uchida 1937, Chao 1976, Gupta 1988, Wang <i>et al.</i> 2010, Sheng <i>et al.</i> 2013
<i>C. caeruleodorsata</i> (Cameron, 1903)	Cherrapunji (Meghalaya), Mussoorie (Uttarakhand), Sikkim, Khonumthung (Chin), Kan Paik Ti (Kachin), Ban Saleui (Hua Phan)	Cameron 1905, Heinrich 1967, Gupta 1988, Jonathan 2003
<i>C. caerulescens</i> (Morley, 1915)	Kangra Valley (Himachal Pradesh), Mussoorie (Uttarakhand)	Morley 1915, Jonathan 1995
<i>C. celebensis</i> Heinrich, 1934	Gunung Bawakaraeng (S. Sulawesi), Tanke Solokko, Mekongga Mountains (SE Sulawesi), Gunung Matitang 1700m. (most possibly Huidu Tentolomatinan, Pegunungan Paleleh range, Central Sulawesi), Khonumthung (Chin)	Heinrich 1934, 1966
<i>C. chinicus</i> Heinrich, 1966	Khonumthung (Chin)	Heinrich 1966
<i>C. cyaniventrops</i> Heinrich, 1966	Kalatop (Himachal Pradesh), Godavari (Nepal)	Heinrich 1966, Gupta 1988, Jonathan 1995
<i>C. decemguttatus</i> Uchida, 1932	Pianmazhen (Yunnan), Phongsaly (Laos), Khonumthung (Chin), Dalin (Chiayi)	Uchida 1932, Heinrich 1966, Chiu <i>et al.</i> 1984, Riedel 2013, 2017
<i>C. dolichopsis</i> (Heinrich, 1934)	Shaowu (Fujian), Latimojong (South Sulawesi), Khonumthung (Chin)	Heinrich 1934, 1967, Gupta 1987, Gupta 1988
<i>C. egregia</i> (Heinrich, 1967)	Khonumthung (Chin), Kan Paik Ti (Kachin)	Heinrich 1967, Gupta 1987, 1988
<i>C. exephanopsis</i> Heinrich, 1934	Bantimurung (S. Sulawesi), Khonumthung (Chin)	Heinrich 1934, 1966, Gupta 1987

...continued on the next page

Table 1. (Continued)

Species of <i>Coelichneumon</i>	Distribution record	Reference
<i>C. femorata</i> (Cameron, 1903)	Dalhousie Hills (Himachal Pradesh), Govind Ghat (Uttar Pradesh), Nainital (Uttarakhand), Khasi Hills (Meghalaya), Khonumthung (Chin), Kan Paik Ti (Kachin)	Heinrich 1967, Gupta 1987, 1988
<i>C. flavoguttatus</i> (Uchida, 1925)	Jiangxi, Talurwan (Nantou)	Uchida 1925b, 1926, 1937, Chiu et al 1984, Sheng et al 2013
<i>C. flavolineatus</i> (Cameron, 1903)	Khasi Hills (Meghalaya), Sikkim, Kan Paik Ti (Kachin), Khonumthung (Chin)	Cameron 1903b, 1905, Heinrich 1966, Gupta 1988, Jonathan 2003
<i>C. flavomaculata</i> (Cameron, 1901)	Khasi Hills (Meghalaya), Pahalgam (Jammu and Kashmir), Ahla, Baghi Shimla, Dalhousie, Kalatop, Khajjiar, Manali, Narkanda, Pangi, Upper Bakrota, (Himachal Pradesh), Barkot, Harsil, Kausani, Mussoorie, Nainital, Ramgarh, Ranikhet (Uttarakhand), Rangaroong Tea Garden (West Bengal), Kan Paik Ti (Kachin), Khonumthung (Chin)	Uchida 1936, Heinrich 1967, Gupta 1987, 1988
<i>C. formosulus</i> (Tosquinet, 1903)	Mt Gede (West Java)	Tosquinet 1903
<i>C. fulvibasalis</i> Uchida, 1932	Dalin (Chiayi), Amping (Tainan)	Uchida 1932
<i>C. fulvipes</i> (Cameron, 1904)	Dalhousie Hills (Himachal Pradesh), Garhwal Hills (Uttar Pradesh)	Cameron 1904a, Gupta 1988, Jonathan 1999, 2003
<i>C. futasujii</i> (Uchida, 1932)	Dalin (Chiayi)	Uchida 1932
<i>C. geminus</i> Heinrich, 1967	Khonumthung (Chin)	Heinrich 1967
<i>C. godwinausteni</i> (Cameron, 1897)	Khasi Hills (Meghalaya), Kan Paik Ti (Kachin)	Cameron 1897, 1903b, Heinrich 1966
<i>C. hopponis</i> (Matsumura, 1912)	Beipu (Hsinchu)	Matsumura 1912, Uchida 1925a
<i>C. hormaleoscelus</i> Uchida, 1932	Jiangxi, Pyin Oo Lwin (Mandalay Region), Phongsali (Phongsali), Dalin (Chiayi)	Uchida 1932, Heinrich 1966, Chao 1976, Chiu et al. 1984, Gupta 1987, Sheng et al. 2013
<i>C. inutilis</i> Heinrich, 1966	Kan Paik Ti (Kachin)	Heinrich 1966
<i>C. iridipennis</i> (Cameron, 1905)	Darjeeling (West Bengal), Mussoorie (Uttarakhand)	Cameron 1905, Morley 1915
<i>C. kosempensis</i> Uchida, 1932	Hpungan Pass (Kachin), Jiasian (Kaohsiung)	Uchida 1932, Heinrich 1966
<i>C. lamellata</i> (Heinrich, 1967)	Chaubatia (Uttarakhand)	Gupta 1988, Jonathan 1995
<i>C. laoticus</i> Riedel, 2013	Oa Tai (Phongsali)	Riedel 2013
<i>C. lineaticeps</i> (Cameron, 1904)	Darjeeling (West Bengal), Kan Paik Ti (Kachin), Pyin Oo Lwin (Mandalay Region), Malaysia (Borneo)	Cameron 1904a, Heinrich 1966, Riedel 2023
<i>C. lineiscutis</i> Heinrich, 1966	Ban Saleui (Hua Phan), Kan Paik Ti (Kachin), Khonumthung (Chin), Pancasila (Sumbawa)	Heinrich 1966, Riedel 2023
<i>C. maculiscutis</i> (Cameron, 1905)	Sikkim, Kan Paik Ti (Kachin), Khonumthung (Chin), Phongsali (Phongsali)	Cameron 1905, Morley 1915, Heinrich 1966, Riedel 2013
<i>C. malaisei</i> (Heinrich, 1967)	Godavari (Bagmati), Kan Paik Ti (Kachin), Shaowu (Fujian), Malacca, Perak	Heinrich 1967, Gupta 1987, 1988
<i>C. mandibularis</i> Heinrich, 1966	Assam, Kan Paik Ti (Kachin), Khonumthung (Chin)	Heinrich 1966, Riedel 2013
<i>C. neotypus</i> Heinrich, 1966	Khonumthung (Chin)	Heinrich 1966
<i>C. nigropropodealis</i> Riedel, 2023	Malaysia (Sabah)	Riedel 2023
<i>C. nivosus</i> Heinrich, 1966	Khonumthung (Chin)	Heinrich 1966
<i>C. ocellus</i> (Tosquinet, 1903)	Fujian, Guangdong, Guizhou, Jiangxi, Hunan, Sichuan, Yunnan, Zhejiang, Nowgong (Assam), Namkum (Bihar), Simla (Himachal Pradesh), Medikeri (Karnataka), Cat Tien N.P. (Dong Nai), Ngantang, Tengger, (Java), Latimojong (Sulawesi), Okinawa (Kyushu), Khonumthung (Chin), Tripureshwar (Bagmati), Antipolo (Luzon), Cotabato (Mindanao), Sunmoon Lake (Taichung), Singapore, Doi Sutep (Chiang Mai)	Tosquinet 1903, Uchida 1925a, 1925b, Heinrich 1934, 1967, Momoi 1970, He 1984, Gupta 1988, He et al. 1996, Riedel 2013, Sheng et al 2013
<i>C. parachinicus</i> Riedel, 2013	Tengchong (Yunnan)	Riedel 2013
<i>C. paradisea</i> (Heinrich, 1967)	Ahla, Chini Bungalow, Dhenkund, Narkanda (Himachal Pradesh), Khonumthung (Chin), Kan Paik Ti (Kachin)	Heinrich 1967, Gupta 1987, 1988
<i>C. penetrans</i> (Smith, 1858)	Sarawak	Smith 1858
<i>C. penicillatus</i> Heinrich, 1967	Khonumthung (Chin)	Heinrich 1967
<i>C. piceipennis</i> (Morley, 1915)	Khasi Hills (Meghalaya)	Morley 1915

...continued on the next page

Table 1. (Continued)

Species of <i>Coelichneumon</i>	Distribution record	Reference
<i>C. pieli</i> Uchida, 1937	Jiangxi, Tam Dao N.P. (Vinh Phuc)	Uchida 1937, Riedel 2013
<i>C. popae</i> Heinrich, 1966	Khasi Hills (Meghalaya), Kumaon Hills (Uttar Pradesh), Gangtok (Sikkim), Hua Phan, Phongsaly (Laos), Khonuamthung (Chin), Long Pa Sia (Sabah), Doi Sutep (Chiang Mai)	Heinrich 1966, Gupta 1988, Riedel 2013, 2017, 2023
<i>C. pseudoneotypus</i> Riedel, 2013	Nokrek N.P. (Meghalaya)	Riedel 2013
<i>C. pterostigmator</i> Riedel, 2013	Tengchong (Yunnan)	Riedel 2013
<i>C. quinque maculatus</i> (Cameron, 1903)	Khasi Hills (Meghalaya), Kan Paik Ti (Kachin), Khonuamthung (Chin), Huisun Forest Area (Nantou)	Heinrich 1966, Gupta 1988, Riedel 2013
<i>C. rothneyi</i> (Cameron, 1902)	Ahla, Dalhousie, Dhenkund, Manali, Kalatop, Kufri, Narkanda (Himachal Pradesh), Mussoorie, Nainital, Ramgarh (Uttarakhand), Govind Ghat (Uttar Pradesh), Khasi Hills (Meghalaya), Gangtok (Sikkim), Darjeeling, Lebung, Rangarooong Tea Garden (West Bengal), Khonuamthung (Chin), Kan Paik Ti (Kachin)	Heinrich 1967, Gupta 1988
<i>C. rufiventris</i> (Cameron, 1903)	Khasi Hills (Meghalaya), Kan Paik Ti (Kachin)	Heinrich 1967
<i>C. rufofemoratus</i> (Cameron, 1903)	Khasi Hills (Meghalaya), Darjeeling (West Bengal), Sikkim, Khonuamthung (Chin)	Cameron 1903a, 1903b, Heinrich 1966
<i>C. sabahensis</i> Riedel, 2013	Long Pa Sin (Sabah)	Riedel 2013
<i>C. sichuanensis</i> Riedel, 2013	Dafengding (Sichuan)	Riedel 2013
<i>C. sillemi</i> Roman, 1935	Khardung La (Ladakh)	Roman 1935
<i>C. strigosus</i> (Morley, 1915)	Gangtok (Sikkim), Bertam tea areas (Kelantan)	Morley 1915, Riedel 2013
<i>C. strombus</i> (Dalla Torre, 1897)	Sind Valley (Jammu and Kashmir)	Townes et al. 1961
<i>C. taihorinus</i> Uchida, 1932	Kangra, Manali (Himachal Pradesh), Dehra Dun, Kumaon Hills (Uttar Pradesh), Kalimpong, Pedong (West Bengal), Kottigehara, Madikeri (Karnataka), Panhala Fort (Maharashtra), Manjitar (Sikkim), Cinkona Tea Estate, Oothu (Tamil Nadu), Ban Saleui (Hua Phan), Dalin (Chiayi), Thimpu (Bhutan), Balaju (Kathmandu), Godawari, Tripureshwar (Bagmati), Tampa Koshi Tal (Koshi), Mt Popa, Pyin Oo Lwin (Mandalay Region), Khonuamthung (Chin), Pang Paek (Mae Hong Son), Ban Song Cha, Ban Thong Khang (Luang Prabang), Khamkeuth (Bolikhamsai), Kecamatan Jampang Tengah (West Java), Sunmoon Lake (Taichung)	Uchida, 1932, Gupta 1988, Riedel 2013, 2017
<i>C. tigris</i> (Heinrich, 1967)	Khonuamthung (Chin), Kan Paik Ti (Kachin)	Heinrich 1967, Gupta 1987
<i>C. tonkinensis</i> Riedel, 2013	Hoang Lien N.R. (Lao Cai)	Riedel 2013
<i>C. tricoloripes</i> Heinrich, 1966	Kan Paik Ti (Kachin), Taunggyi (Shan), Khonuamthung (Chin), Pyin Oo Lwin (Mandalay Region)	Heinrich 1966
<i>C. unicolorata</i> (Heinrich, 1968)	Kan Paik Ti (Kachin)	Heinrich 1968, Gupta 1987
<i>C. vana</i> (Heinrich, 1968)	Kan Paik Ti (Kachin)	Heinrich 1968
<i>C. vehementer</i> Heinrich, 1966	Khonuamthung (Chin)	Heinrich 1966
<i>C. victoriae</i> (Heinrich, 1968)	Khonuamthung (Chin)	Heinrich 1968
<i>C. victorianus</i> Heinrich, 1966	Khonuamthung (Chin), Hoang Lien N.R. (Lao Cai)	Heinrich 1966, Riedel 2013
<i>C. violaceipennis</i> (Cameron, 1903)	Khasi Hills (Meghalaya)	Cameron 1903, Heinrich 1967, Gupta 1987

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References

Ashmead W. H. 1900. Classification of the Ichneumon flies, or the superfamily Ichneumonoidea. *Proceedings of the United States National Museum* 23: 1–220.

<https://doi.org/10.5479/si.00963801.23-1206.1>

- Berthoumieu V. 1904.** Fam. Ichneumonidae, Subfam. Ichneumoninae. *Genera Insectorum*, 18: 1–87.
- Broad G. R., Shaw M. R. & Fitton M. G. 2018.** Ichneumonid wasps (Hymenoptera: Ichneumonidae): their classification and biology. *Handbooks for the Identification of British Insects* 7(12): 1–418.
- Broad G. R. 2021.** Taxonomic changes in Ichneumonoidea (Hymenoptera), and notes on certain type specimens. *Zootaxa* 4941(4): 511–541.
<https://doi.org/10.11646/zootaxa.4941.4.3>
- Cameron P. 1897.** Hymenoptera Orientalia, or Contributions to the knowledge of the Hymenoptera of the Oriental Zoological Region. Part VI. *Memoirs and proceedings of the Manchester Literary & Philosophical Society* 41(13): 1–28.
- Cameron P. 1901.** Descriptions of seventeen new genera of Ichneumonidae from India and one from Australia. *The Annals and Magazine of Natural History, Zoology, Botany and Geology* 7(41): 374–385.
<https://doi.org/10.1080/00222930108678486>
- Cameron P. 1902.** Description of new genera and species of Hymenoptera from India. *Zeitschrift für Systematische Hymenopterologie und Dipterologie* 2: 391–398.
- Cameron P. 1903a.** Description of new genera and species of Hymenoptera from India. *Zeitschrift für Systematische Hymenopterologie und Dipterologie* 3(1): 9–16.
- Cameron P. 1903b.** On some new genera and species of parasitic and fossorial Hymenoptera from the Khasia Hills, Assam. *Annals and Magazine of Natural History* 11: 173–185.
<https://doi.org/10.1080/00222930308678748>
- Cameron P. 1903c.** On some new genera and species of parasitic Hymenoptera from the Khasia Hills, Assam. *Annals and Magazine of Natural History* 12: 266–272.
<https://doi.org/10.1080/00222930308678852>
- Cameron P. 1904a.** Description of new genera and species of Hymenoptera from India. *Zeitschrift für Systematische Hymenopterologie und Dipterologie* 4: 217–224.
- Cameron P. 1904b.** On some new genera and species of Hymenoptera. *Entomologist* 37: 208–210.
<https://doi.org/10.5962/bhl.part.2882>
- Cameron P. 1905.** Description of some new species of parasitic Hymenoptera chiefly from the Sikkim Himalaya. (Hym.) (Continued.). *Zeitschrift für Systematische Hymenopterologie und Dipterologie* 5(5): 278–285.
- Carlson R. W. 1979.** Family Ichneumonidae. In: *Catalog of Hymenoptera in America North of Mexico, Volume I. Smithsonian Institution Press, Washington, D.C.* 315–741.
- Chao H. F. 1976.** *An outline of the classification of the Ichneumon-flies of China (Hymenoptera: Ichneumonidae)*. Scientific Publisher, Beijing, 413 pp. [in Chinese].
- Cheraghi A. & Esfandiari M. 2016.** The first rearing of *Coelichneumon singularis* (Berthoumieu, 1892) (Hymenoptera: Ichneumonidae) from the sugarcane borer *Sesamia cretica* Lederer, 1857 (Lepidoptera: Noctuidae). *Far Eastern Entomologist* (2016): 14–15.
- Chiu S. C., Chou L. Y. & Chou K. C. 1984.** A check list of Ichneumonidae (Hymenoptera) of Taiwan. *Taiwan Agricultural Research Institute* 15: 67 pp.
- Dal Pos D., Heilman V. & Welter-Schultes F. 2022.** Platylabini (Hymenoptera: Ichneumonidae: Ichneumoninae) of the south-eastern United States: new distributional data, taxonomic notes, illustrated keys, and an annotated catalogue of the genera and species. *Journal of Natural History* 56(45–48): 1869–1938.
<https://doi.org/10.1080/00222933.2022.2134061>
- Dal Pos D., Claridge B., Diller E., van Noort S. & Di Giovanni F. 2023.** Still counting: new records, nomenclatural notes, and three new species of Phaeogenini (Hymenoptera, Ichneumonidae, Ichneumoninae) from the Afrotropical region. *European Journal of Taxonomy* 868(1): 1–71.
<https://doi.org/10.5852/ejt.2023.868.2105>
- Gravenhorst J. L. C. 1820.** Monographia ichneumonum Pedemontanae regionis. *Memorie della Reale Accademia delle Scienze di Torino* 24: 275–388.
- Gupta V. K. 1987.** The Ichneumonidae of the Indo-Australian area (Hymenoptera). Part 2. Subfamilies Metopiinae to Ichneumoninae. *Memoirs of the American Entomological Institute* 41: 598–1210.
- Gupta S. 1988.** New Distributional Records for Ichneumoninae (Hymenoptera: Ichneumonidae) of the Indo-Australian Area. *Oriental Insects* 22(1): 301–357.
<https://doi.org/10.1080/00305316.1988.11835494>
- He J. H. 1984.** A checklist of Ichneumon-flies parasitic on rice pests from China (Hymenoptera: Ichneumonidae). *Acta Agriculturae Universitatis Zhejianensis* 10(1): 77–110. [In Chinese]
- He J. H., Chen X. X. & Ma Y. 1996.** Hymenoptera: Ichneumonidae. *Economic Insect Fauna of China*. Science Press, Beijing, China.

697 pp. [In Chinese]

- Heinrich G. H. 1934.** Die Ichneumoninae von Celebes. Bearbeitet auf grund der ausbeute der Celebes expedition G. Heinrich 1930–1932. *Mitteilungen aus dem Zoologischen Museum in Berlin* 20(1): 1–263. [in German]
- Heinrich G. H. 1937.** A list and some notes on the synonymy of the types of the subfamily Ichneumoninae Ashmead (Hym.) in the collections of the British Museum and the Hope Department of the Oxford University Museum. *Annals and Magazine of Natural History* 20: 257–279.
<https://doi.org/10.1080/00222933708655342>
- Heinrich G. H. 1961.** Synopsis of Nearctic Ichneumoninae Stenopneusticae with Particular Reference to the Northeastern Region (Hymenoptera): Part I. Introduction, Key to Nearctic Genera of Ichneumoninae Stenopneusticae and Synopsis of the Protichneumonini North of Mexico. *The Canadian Entomologist* 92(S15): 1–88.
<https://doi.org/10.4039/entm9215fv>
- Heinrich G. H. 1966.** Burmesische Ichneumoninae III [a]. *Entomologisk Tidskrift* 87: 187–247. [in German]
- Heinrich G. H. 1967.** Burmesische Ichneumoninae III [Tribus Protichneumonini contd.]. *Entomologisk Tidskrift* 88: 1–32. [in German]
- Heinrich G. H. 1968.** Burmesische Ichneumoninae IV [A. Nächtrage. B. Fortsetzung]. *Entomologisk Tidskrift* 89: 77–106. [in German]
- Heinrich G. H. 1977.** Ichneumoninae of Florida and neighboring states (Hymenoptera: Ichneumonidae, subfamily Ichneumoninae). *Arthropods of Florida and Neighboring Land Areas* 9: 1–350.
- Hinz R. 1983.** The biology of the European species of the genus *Ichneumon* and related species (Hymenoptera: Ichneumonidae). *Contributions of the American Entomological Institute* 20: 151–152.
- Horstmann K. 2005.** Über einige Gattungen der Ichneumonidae mit fehlbestimmten Typusarten (Hymenoptera). *Linzer biologische Beiträge* 37(2): 1257–1275.
- ICZN [Internation Commission on Zoological Nomenclature] 1999.** *International Code of Zoological Nomenclature. Fourth Edition.* The International Trust for Zoological Nomenclature, London, UK. 306 pp.
- Jonathan J. K. 1995.** Hymenoptera: Ichneumonidae. In: *Himalayan Ecosystem Series: Fauna of Western Himalaya*. S. Gupta (ed.). Part 1, Uttar Pradesh, Zoological Survey of India, Calcutta, India. 91–110 pp.
- Jonathan J. K. 1999.** Hymenoptera: Ichneumonidae pp. 295–415. In: *Fauna of West Bengal. Part 8. Insecta (Trichoptera, Thysanoptera, Neuroptera, Hymenoptera and Anoplura)*. A. K. Gosh (ed.). Calcutta: Zoological Survey of India, iv: 295–442 pp.
- Jonathan J. K. 2003.** Insecta: Hymenoptera: Ichneumonidae. pp. 447–466. In: *Fauna of Sikkim, Part 4 (Insecta)*. J. R. B. Alfred (ed.), State Fauna Series 9: 447–466 pp.
- Matsumura S. 1912.** *Thousand Insects of Japan. Supplement IV.* 247 pp., 55 pls. Keiseisha-shoten, Tokyo. [in Japanese and English]
- Momoi S. 1970.** Ichneumonidae (Hymenoptera) of the Ryukyu Archipelago. *Pacific Insects* 12(2): 327–399.
- Morley C. 1915.** *A revision of the Ichneumonidae based on the collection in the British Museum (Natural History) with descriptions of new genera and species. Part IV. Tribes Joppides, Banchides and Alomyides.* Trustees of the British Museum, London, UK, 167 pp.
- Quicke D. L. J., Laurence N. N., Fitton M. G. & Broad G. R. 2009.** A thousand and one wasps: a 28S rDNA and morphological phylogeny of the Ichneumonidae (Insecta: Hymenoptera) with an investigation into alignment parameter space and elision. *Journal of Natural History* 43: 1305–1421.
<https://doi.org/10.1080/00222930902807783>
- Riedel M. 2013.** Contribution to the Ichneumoninae (Hymenoptera, Ichneumonidae) of Southeastern Asia: 2. Tribe Heresiarchini. *Linzer Biologische Beiträge* 45: 2025–2076.
- Riedel M. 2017.** Contribution to the Ichneumoninae (Hymenoptera, Ichneumonidae) of Southeastern Asia: 3. Heresiarchini. *Linzer Biologische Beiträge* 49: 895–917.
- Riedel M. 2021.** A New Contribution to the Knowledge of the East Palaearctic Ichneumoninae (Hymenoptera, Ichneumonidae). *Linzer Biologische Beiträge* 53: 171–240.
- Riedel M. 2023.** Contribution to the knowledge of the Ichneumoninae (Hymenoptera, Ichneumonidae) from Maritime Southeast Asia. *Zootaxa* 5363: 1–94.
<https://doi.org/10.11646/zootaxa.5363.1.1>
- Riedel M. & Aghadokht P. 2017.** Contribution to the Ichneumoninae (Hymenoptera: Ichneumonidae) of Iran, with descriptions of three new species. *Zoology in the Middle East* 63: 1–8.
<https://doi.org/10.1080/09397140.2017.1361190>
- Riedel M. & Watanabe K. 2021.** The genus *Coelichneumon* Thomson in Japan (Hymenoptera, Ichneumonidae, Ichneumoninae). *Zootaxa* 4948: 501–545.
<https://doi.org/10.11646/zootaxa.4948.4.2>
- Roman A. 1935.** Ichneumonidae. In: Visser P.C. Visse-Hoof J. *Wissenschaftliche Ergebnisse der niederlaendischen Expedition in den Karakorum.* *Zoologie* 245–250.

- Santos B. F., Wahl D. B., Rousse P., Bennett A. M. R., Kula R. & Brady S. G. 2021.** Phylogenomics of Ichneumoninae (Hymenoptera, Ichneumonidae) reveals pervasive morphological convergence and the shortcomings of previous classifications. *Systematic Entomology* 46(3): 1–21.
<https://doi.org/10.1111/syen.12484>
- Selfa J. 1999.** Updating the nomenclature of the Spanish Ichneumoninae (Hymenoptera, Ichneumonidae). *Entomofauna* 20: 373–380.
- Shaw M. R., Kan P. & Kan-van Limburg Stirum B. 2015.** Emergence behaviour of adult *Trogus lapidator* (Fabricius) (Hymenoptera, Ichneumonidae, Ichneumoninae, Heresiarchini) from pupa of its host *Papilio machaon* L. (Lepidoptera, Papilionidae), with a comparative overview of emergence of Ichneumonidae from Lepidoptera pupae in Europe. *Journal of Hymenoptera Research* 47: 65–85.
<https://doi.org/10.3897/JHR.47.6508>
- Sheng M. L., Sun S. P., Ding D. S. & Luo J. G. 2013.** *Ichneumonid Fauna of Jiangxi (Hymenoptera: Ichneumonidae)*. Science Press, Beijing, 569 pp. [in Chinese].
- Singh L. R. K., Chandra K. & Gupta D. 2021.** Insecta : Hymenoptera : Ichneumonidae. 337–352 pp. In: *Faunal Diversity of Biogeographic Zones of India: North-East*. K. Chandra, L. Kosygin, C. Raghunathan, & D. Gupta (eds.): Zoological Survey of India, Kolkata.
- Smith F. 1858.** Catalogue of the Hymenoptera insects collected at Sarawak, Borneo; Mount Ophir, Malacca; and Singapore by A.R. Wallace. *Journal and Proceedings of the Linnean Society of London (Zoology)* 2: 42–130.
<https://doi.org/10.1111/j.1096-3642.1858.tb02548.x>
- Thomson C. G. 1893.** Anmärkning ar öfver Ichneumoner särskildt med hänsyn till några af A.E. Holmgrens typer. *Opuscula Entomologica* 18: 1889–1967.
- Tosquinet J. 1903.** Ichneumonides nouveaux. (Travail posthume). *Mémoires de la Société Entomologique de Belgique* 10: 1–403.
- Townes H. K., Townes M. C. & Gupta V. K. 1961.** A catalogue and reclassification of the Indo-Australian Ichneumonidae. *Memoirs of the American Entomological Institute* 1: 1–522.
- Townes H. K. 1969.** The genera of Ichneumonidae, Part 1. *Memoirs of the American Entomological Institute* 11: 1–300.
<https://doi.org/10.1007/BF02330202>
- Uchida T. 1925a.** Das systematische Studium über die Tribus Joppini der Unterfamilie Ichneumoninae von Japan. *Zoological Magazine* 37(444): 443–457.
- Uchida T. 1925b.** Einige neue Ichneumoninen-Arten aus Formosa. *Transactions of the Natural History Society of Formosa* 15(81): 239–249. [in German]
- Uchida T. 1926.** Erster Beitrag zur Ichneumoniden Japans. *Journal of the Faculty of Agriculture, Hokkaido Imperial University* 18(2): 43–173. [in German]
- Uchida T. 1932.** H. Sauter's Formosa-Ausbeute. Ichneumonidae (Hym.). *Journal of the Faculty of Agriculture, Hokkaido University* 33(2): 133–222. [in German]
- Uchida T. 1936.** Drei neue Gattungen sowie acht neue und fuenf unbeschriebene Arten der Ichneumoniden aus Japan. *Insecta Matsumurana* 10: 111–122. [in German]
- Uchida T. 1937.** Die von Herrn O. Piel gesammelten chinesischen Ichneumonidenarten. *Insecta Matsumurana* 11: 81–95. [in German]
- Viereck H. L. 1914.** Type species of the genera of Ichneumon flies. *United States National Museum Bulletin* 83: 1–186.
<https://doi.org/10.5479/si.03629236.83.1>
- Wang G., Xia S. & Han B. 2010.** Survey on resources and appraisal of dominant species of natural enemies in tea plantations in Guizhou Province. *Journal of Anhui Agricultural University* 37(4)118: 772–780.
- Yoder M. J., Mikó I., Seltmann K. C., Bertone M. A. & Deans A. R. 2010.** A Gross Anatomy Ontology for Hymenoptera. *PLoS One* 5(e15991): 1–8.
<https://doi.org/10.1371/journal.pone.0015991>
- Yu D. S. & Horstmann K. 1997.** A catalogue of world Ichneumonidae (Hymenoptera). Part 1: Subfamilies Acaenitinae to Ophioninae. *Memoirs of the American Entomological Institute* 58(1): 1–763.
- Yu D. S., van Achterberg K. & Horstmann K. 2016.** World Ichneumonoidea 2015. *Taxonomy, biology, morphology and distribution*. [Flash drive]. Taxapad®, Vancouver, Canada.

Appendix 1. Valid species of *Coelichneumon* Thomson, 1893

Subgenus	Species	Subspecies	Original genus	Author	Year
<i>Coelichneumon</i>	<i>aglaotypus</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>alaicus</i>		<i>Coelichneumon</i>	Heinrich	1930
<i>Coelichneumon</i>	<i>albicillus</i>		<i>Ichneumon</i>	(Gravenhorst)	1820
<i>Coelichneumon</i>	<i>albicoxa</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>albitrochantellus</i>		<i>Coelichneumon</i>	Uchida	1955
<i>Coelichneumon</i>	<i>albonotatus</i>		<i>Cyanojoppa</i>	(Cameron)	1903
<i>Coelichneumon</i>	<i>albopilosellus</i>		<i>Coelichneumon</i>	Cameron	1905
<i>Coelichneumon</i>	<i>alvarado</i>		<i>Ichneumon</i>	(Cresson)	1868
<i>Coelichneumon</i>	<i>annulipes</i>		<i>Myermo</i>	(Cameron)	1905
<i>Coelichneumon</i>	<i>anthrax</i>		<i>Ichneumon</i>	(Dalla Torre)	1901
<i>Coelichneumon</i>	<i>assimilis</i>		<i>Ichneumon</i>	(Kokujev)	1904
<i>Coelichneumon</i>	<i>ater</i>		<i>Ichneumon</i>	(Cresson)	1864
<i>Coelichneumon</i>	<i>atratorius</i>		<i>Ichneumon</i>	(Villers)	1789
<i>Coelichneumon</i>	<i>atrox</i>		<i>Amblyteles</i>	(Kokujev)	1909
<i>Coelichneumon</i>	<i>azotus</i>		<i>Ichneumon</i>	(Cresson)	1864
<i>Coelichneumon</i>	<i>barnstoni</i>		<i>Coelichneumon</i>	Morley	1915
<i>Coelichneumon</i>	<i>beatus</i>		<i>Ichneumon</i>	(Cameron)	1885
<i>Coelichneumon</i>	<i>bellatulus</i>		<i>Ichneumon</i>	(Cameron)	1884
<i>Coelichneumon</i>	<i>biannulatus</i>		<i>Ichneumon</i>	(Gravenhorst)	1820
<i>Coelichneumon</i>	<i>biguttorius</i>		<i>Ichneumon</i>	(Thunberg)	1789
<i>Coelichneumon</i>	<i>biguttulatus</i>		<i>Ichneumon</i>	(Kriechbaumer)	1875
<i>Coelichneumon</i>	<i>bilineatus</i>		<i>Ichneumon</i>	(Gmelin)	1790
<i>Coelichneumon</i>	<i>bimaculatus</i>		<i>Ichneumon</i>	(Smith)	1878
<i>Coelichneumon</i>	<i>birmanicus</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>bivittatus</i>	<i>bivittatus</i>	<i>Ichneumon</i>	(Matsumura)	1912
<i>Coelichneumon</i>	<i>bivittatus</i>	<i>sinicus</i>	<i>Coelichneumon</i>	Uchida	1937
<i>Coelichneumon</i>	<i>bohemani</i>		<i>Ichneumon</i>	(Holmgren)	1864
<i>Coelichneumon</i>	<i>bonthainensis</i>		<i>Coelichneumon</i>	Heinrich	1934
<i>Coelichneumon</i>	<i>brunneri</i>		<i>Ichneumon</i>	(Rohwer)	1913
<i>Coelichneumon</i>	<i>caeruleodorsatus</i>	<i>caeruleodorsatus</i>	<i>Aglaojoppa</i>	(Cameron)	1903
<i>Coelichneumon</i>	<i>caeruleodorsatus</i>	<i>sauteri</i>	<i>Coelichneumon</i>	Uchida	1932
<i>Coelichneumon</i>	<i>caerulescens</i>		<i>Aglaojoppa</i>	(Morley)	1915
<i>Coelichneumon</i>	<i>caerulogaster</i>		<i>Coelichneumon</i>	Riedel & Watanabe	2021
<i>Coelichneumon</i>	<i>caesareus</i>		<i>Ichneumon</i>	(Roman)	1904
<i>Coelichneumon</i>	<i>cameroni</i>	<i>flavodis</i>	<i>Aglaojoppa</i>	(Tosquinet)	1903
<i>Coelichneumon</i>	<i>cameroni</i>	<i>cameroni</i>	<i>Coelichneumon</i>	Riedel & Watanabe	2021
<i>Coelichneumon</i>	<i>carinator</i>		<i>Coelichneumon</i>	Riedel & Watanabe	2021
<i>Coelichneumon</i>	<i>caroni</i>		<i>Coelichneumon</i>	Heinrich	1934
<i>Coelichneumon</i>	<i>celebensis</i>	<i>celebensis</i>	<i>Coelichneumon</i>	Heinrich	1934
<i>Coelichneumon</i>	<i>celebensis</i>	<i>matinangis</i>	<i>Coelichneumon</i>	Heinrich	1934
<i>Coelichneumon</i>	<i>celebensis</i>	<i>tenuicinctus</i>	<i>Coelichneumon</i>	Heinrich	1934
<i>Coelichneumon</i>	<i>celebensis</i>	<i>victoriaemontis</i>	<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>centummaculatus</i>		<i>Ichneumon</i>	(Christ)	1791
<i>Coelichneumon</i>	<i>chalybeus</i>		<i>Ichneumon</i>	(Cresson)	1877
<i>Coelichneumon</i>	<i>chinicus</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>citimus</i>		<i>Ichneumon</i>	(Cresson)	1877
<i>Coelichneumon</i>	<i>clypeatus</i>		<i>Protichneumon</i>	(Uchida)	1955
<i>Coelichneumon</i>	<i>columbianus</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>comitator</i>		<i>Ichneumon</i>	(Linnaeus)	1758
<i>Coelichneumon</i>	<i>consimilis</i>		<i>Ichneumon</i>	(Wesmael)	1845
<i>Coelichneumon</i>	<i>coxalis</i>		<i>Coelichneumon</i>	Uchida	1926
<i>Coelichneumon</i>	<i>crassicornis</i>		<i>Coelichneumon</i>	Uchida	1927
<i>Coelichneumon</i>	<i>cretatus</i>		<i>Ichneumon</i>	(Gravenhorst)	1820
<i>Coelichneumon</i>	<i>cyanator</i>		<i>Coelichneumon</i>	Riedel & Watanabe	2021
<i>Coelichneumon</i>	<i>cyaniventris</i>		<i>Ichneumon</i>	(Wesmael)	1859
<i>Coelichneumon</i>	<i>cyaniventrops</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>decemguttatus</i>	<i>decemguttatus</i>	<i>Coelichneumon</i>	Uchida	1932

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Appendix 1. (Continued)

Subgenus	Species	Subspecies	Original genus	Author	Year
<i>Coelichneumon</i>	<i>decemguttatus</i>	<i>victoriae</i>	<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>delirops</i>		<i>Coelichneumon</i>	Heinrich	1977
<i>Coelichneumon</i>	<i>desinatorius</i>		<i>Ichneumon</i>	(Thunberg)	1822
<i>Coelichneumon</i>	<i>dorsosignatus</i>		<i>Ichneumon</i>	(Berthoumieu & Eversmann)	1894
<i>Coelichneumon</i>	<i>dubius</i>		<i>Ichneumon</i>	(Tischbein)	1876
<i>Coelichneumon</i>	<i>eburnifrons</i>		<i>Ichneumon</i>	(Wesmael)	1857
<i>Coelichneumon</i>	<i>egregius</i>		<i>Aglaojoppa</i>	(Heinrich)	1967
<i>Coelichneumon</i>	<i>erebeus</i>		<i>Ichneumon</i>	(Berthoumieu)	1903
<i>Coelichneumon</i>	<i>erythromerus</i>		<i>Amblyteles</i>	(Rudow)	1888
<i>Coelichneumon</i>	<i>eximiops</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>eximius</i>		<i>Ichneumon</i>	(Stephens)	1835
<i>Coelichneumon</i>	<i>falsificus</i>		<i>Ichneumon</i>	(Wesmael)	1845
<i>Coelichneumon</i>	<i>fasciator</i>		<i>Coelichneumon</i>	Riedel	2008
<i>Coelichneumon</i>	<i>femoralis</i>		<i>Coelichneumon</i>	Uchida	1927
<i>Coelichneumon</i>	<i>femoratus</i>		<i>Aglaojoppa</i>	(Cameron)	1903
<i>Coelichneumon</i>	<i>flagellator</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>flavitaris</i>		<i>Ichneumon</i>	(Smith)	1874
<i>Coelichneumon</i>	<i>flavoguttatus</i>	<i>flavoguttatus</i>	<i>Aglaojoppa</i>	(Uchida)	1925
<i>Coelichneumon</i>	<i>flavoguttatus</i>	<i>himalayensis</i>	<i>Coelichneumon</i>	Riedel	2013
<i>Coelichneumon</i>	<i>flavolineatus</i>		<i>Aglaojoppa</i>	(Cameron)	1903
<i>Coelichneumon</i>	<i>flavomaculataus</i>		<i>Aglaojoppa</i>	(Cameron)	1901
<i>Coelichneumon</i>	<i>flavotibialis</i>		<i>Coelichneumon</i>	Riedel	2013
<i>Coelichneumon</i>	<i>flebilis</i>		<i>Ichneumon</i>	(Berthoumieu)	1903
<i>Coelichneumon</i>	<i>formosulus</i>		<i>Ichneumon</i>	Tosquinet	1903
<i>Coelichneumon</i>	<i>foxleei</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>fulvipennisoides</i>		<i>Coelichneumon</i>	Riedel	2017
<i>Coelichneumon</i>	<i>fulvipes</i>		<i>Shalisha</i>	(Cameron)	1904
<i>Coelichneumon</i>	<i>funebator</i>		<i>Coelichneumon</i>	Horstmann	2006
<i>Coelichneumon</i>	<i>gargawensis</i>		<i>Coelichneumon</i>	Uchida	1925
<i>Coelichneumon</i>	<i>godwinausteni</i>		<i>Ichneumon</i>	(Cameron)	1897
<i>Coelichneumon</i>	<i>graecator</i>		<i>Coelichneumon</i>	Riedel	2012
<i>Coelichneumon</i>	<i>graecus</i>		<i>Coelichneumon</i>	Horstmann	2002
<i>Coelichneumon</i>	<i>haemorrhoidalis</i>		<i>Ichneumon</i>	(Gravenhorst)	1820
<i>Coelichneumon</i>	<i>heptapotamicus</i>		<i>Amblyteles</i>	(Kokujev)	1905
<i>Coelichneumon</i>	<i>histricus</i>		<i>Ichneumon</i>	(Cresson)	1867
<i>Coelichneumon</i>	<i>hopponis</i>		<i>Ichneumon</i>	(Matsumura)	1912
<i>Coelichneumon</i>	<i>hormaleoscelus</i>	<i>hormaleoscelus</i>	<i>Coelichneumon</i>	Uchida	1932
<i>Coelichneumon</i>	<i>hormaleoscelus</i>	<i>silvaemontis</i>	<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>impressor</i>		<i>Ichneumon</i>	(Zetterstedt)	1838
<i>Coelichneumon</i>	<i>inutilis</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>iranicus</i>		<i>Coelichneumon</i>	Riedel	2017
<i>Coelichneumon</i>	<i>iridipennis</i>		<i>Aglaojoppa</i>	(Cameron)	1905
<i>Coelichneumon</i>	<i>italicus</i>		<i>Coelichneumon</i>	Riedel	2012
<i>Coelichneumon</i>	<i>jejunus</i>		<i>Ischnus</i>	(Cresson)	1864
<i>Coelichneumon</i>	<i>junceus</i>		<i>Ichneumon</i>	(Cresson)	1873
<i>Coelichneumon</i>	<i>klapperichi</i>		<i>Coelichneumon</i>	Heinrich	1957
<i>Coelichneumon</i>	<i>kosempensis</i>		<i>Coelichneumon</i>	Uchida	1932
<i>Coelichneumon</i>	<i>lacrymator</i>		<i>Ichneumon</i>	(Fonscolombe)	1847
<i>Coelichneumon</i>	<i>lamellatus</i>		<i>Aglaojoppa</i>	(Heinrich)	1967
<i>Coelichneumon</i>	<i>laoticus</i>		<i>Coelichneumon</i>	Riedel	2013
<i>Coelichneumon</i>	<i>latimodjongis</i>		<i>Coelichneumon</i>	Heinrich	1934
<i>Coelichneumon</i>	<i>leucocerus</i>		<i>Ichneumon</i>	(Gravenhorst)	1820
<i>Coelichneumon</i>	<i>leucographus</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>lineaticeps</i>		<i>Lodryca</i>	(Cameron)	1904
<i>Coelichneumon</i>	<i>lineiscutis</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>lisae</i>		<i>Coelichneumon</i>	Heinrich	1977
<i>Coelichneumon</i>	<i>litoralis</i>		<i>Coelichneumon</i>	Horstmann	2000

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Appendix 1. (Continued)

Subgenus	Species	Subspecies	Original genus	Author	Year
<i>Coelichneumon</i>	<i>lividosus</i>		<i>Hadrojoppa</i>	(Uchida)	1925
<i>Coelichneumon</i>	<i>longiterebra</i>		<i>Coelichneumon</i>	Riedel	2008
<i>Coelichneumon</i>	<i>maculiscutis</i>		<i>Aglaojoppa</i>	(Cameron)	1905
<i>Coelichneumon</i>	<i>madritinus</i>		<i>Ichneumon</i>	(Berthoumieu)	1894
<i>Coelichneumon</i>	<i>magniscopa</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>malaisei</i>		<i>Aglaojoppa</i>	(Heinrich)	1967
<i>Coelichneumon</i>	<i>mandibularis</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>maritimensis</i>		<i>Coelichneumon</i>	Heinrich	1980
<i>Coelichneumon</i>	<i>masoni</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>maurus</i>		<i>Ichneumon</i>	(Cameron)	1864
<i>Coelichneumon</i>	<i>melanocastaneus</i>		<i>Coelichneumon</i>	Riedel	2017
<i>Coelichneumon</i>	<i>mengkokae</i>		<i>Coelichneumon</i>	Heinrich	1934
<i>Coelichneumon</i>	<i>merula</i>		<i>Ichneumon</i>	(Berthoumieu)	1894
<i>Coelichneumon</i>	<i>mesonotator</i>		<i>Coelichneumon</i>	Riedel	2008
<i>Coelichneumon</i>	<i>metidjensis</i>		<i>Ichneumon</i>	(Berthoumieu)	1894
<i>Coelichneumon</i>	<i>moestus</i>		<i>Ischnus</i>	(Gravenhorst)	1829
<i>Coelichneumon</i>	<i>mohrii</i>		<i>Coelichneumon</i>	Uchida	1956
<i>Coelichneumon</i>	<i>mongolicus</i>		<i>Ctenichneumon</i>	(Roman)	1936
<i>Coelichneumon</i>	<i>motivus</i>		<i>Ichneumon</i>	(Cameron)	1885
<i>Coelichneumon</i>	<i>navus albidior</i>		<i>Coelichneumon</i>	Heinrich	1977
<i>Coelichneumon</i>	<i>navus navus</i>		<i>Ichneumon</i>	(Say)	1835
<i>Coelichneumon</i>	<i>neocitimus</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>neocretatus</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>neomexicanus</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>nepalensis</i>		<i>Aglaojoppa</i>	(Riedel)	2013
<i>Coelichneumon</i>	<i>nigerrimus</i>		<i>Ichneumon</i>	(Stephens)	1835
<i>Coelichneumon</i>	<i>nigratoricolor</i>		<i>Amblyteles</i>	(Viereck)	1917
<i>Coelichneumon</i>	<i>nigratus</i>		<i>Ichneumon</i>	(Berthoumieu)	1894
<i>Coelichneumon</i>	<i>nigrifrons</i>		<i>Coelichneumon</i>	Riedel	2017
<i>Coelichneumon</i>	<i>nigritor</i>		<i>Coelichneumon</i>	Coruh & Ozbek	2010
<i>Coelichneumon</i>	<i>nigroindicum</i>		<i>Coelichneumon</i>	Kim	1955
<i>Coelichneumon</i>	<i>nigrosignatus</i>		<i>Ichneumon</i>	(Viereck)	1905
<i>Coelichneumon</i>	<i>nipponicus</i>		<i>Coelichneumon</i>	Uchida	1927
<i>Coelichneumon</i>	<i>nivosus</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>nobilis</i>		<i>Ichneumon</i>	(Wesmael)	1857
<i>Coelichneumon</i>	<i>nudicoxator</i>		<i>Coelichneumon</i>	Aubert	1966
<i>Coelichneumon</i>	<i>nudus</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>obscuratus</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>octoguttatus</i>		<i>Coelichneumon</i>	Uchida	1925
<i>Coelichneumon</i>	<i>oltenensis</i>		<i>Coelichneumon</i>	Constantineanu, Pirvescu & Mihalache	1979
<i>Coelichneumon</i>	<i>ophiusae</i>		<i>Ichneumon</i>	(Kriechbaumer)	1890
<i>Coelichneumon</i>	<i>opulentus</i>		<i>Ichneumon</i>	(Taschenberg)	1871
<i>Coelichneumon</i>	<i>orbitator</i>		<i>Ichneumon</i>	(Thunberg)	1822
<i>Coelichneumon</i>	<i>orpheus</i>		<i>Ichneumon</i>	(Cresson)	1864
<i>Coelichneumon</i>	<i>pamirensis</i>		<i>Coelichneumon</i>	Riedel	2008
<i>Coelichneumon</i>	<i>parachinicus</i>		<i>Coelichneumon</i>	Riedel	2013
<i>Coelichneumon</i>	<i>paradiseus</i>		<i>Aglaojoppa</i>	(Heinrich)	1967
<i>Coelichneumon</i>	<i>parafemoratus</i>		<i>Aglaojoppa</i>	(Riedel)	2017
<i>Coelichneumon</i>	<i>pararudis</i>		<i>Coelichneumon</i>	Riedel	2008
<i>Coelichneumon</i>	<i>paravictoriae</i>		<i>Coelichneumon</i>	Riedel & Watanabe	2021
<i>Coelichneumon</i>	<i>paraviolaceiventris</i>		<i>Coelichneumon</i>	Riedel	2008
<i>Coelichneumon</i>	<i>parvulus</i>		<i>Coelichneumon</i>	Riedel	2012
<i>Coelichneumon</i>	<i>pedemontanus</i>		<i>Coelichneumon</i>	Riedel	2012
<i>Coelichneumon</i>	<i>penetrans</i>		<i>Ichneumon</i>	(Smith)	1858
<i>Coelichneumon</i>	<i>pepticus</i>		<i>Ichneumon</i>	(Cresson)	1877
<i>Coelichneumon</i>	<i>pervagus</i>		<i>Ichneumon</i>	(Cresson)	1877

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Appendix 1. (Continued)

Subgenus	Species	Subspecies	Original genus	Author	Year
<i>Coelichneumon</i>	<i>phaenomenon</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>piceipennis</i>		<i>Protichneumon</i>	(Morley)	1915
<i>Coelichneumon</i>	<i>pieli</i>		<i>Coelichneumon</i>	Uchida	1937
<i>Coelichneumon</i>	<i>pomilioaeneus</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>popae</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>probator</i>		<i>Coelichneumon</i>	Horstmann	2000
<i>Coelichneumon</i>	<i>problematicus</i>		<i>Coelichneumon</i>	Riedel, Coruh & Ozbek	2010
<i>Coelichneumon</i>	<i>prolixus</i>		<i>Ichneumon</i>	(Cresson)	1874
<i>Coelichneumon</i>	<i>pseudowalleyi</i>		<i>Coelichneumon</i>	Heinrich	1977
<i>Coelichneumon</i>	<i>pterostigmator</i>		<i>Coelichneumon</i>	Riedel	2013
<i>Coelichneumon</i>	<i>pulcher</i>		<i>Ichneumon</i>	(Brullé)	1846
<i>Coelichneumon</i>	<i>pulchrior</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>punctifer</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>quadraticeps</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>quadriannulatus</i>		<i>Ichneumon</i>	(Gravenhorst)	1829
<i>Coelichneumon</i>	<i>quinquemaculatus</i>		<i>Aglaojoppa</i>	(Cameron)	1903
<i>Coelichneumon</i>	<i>rasnitsyni</i>		<i>Coelichneumon</i>	Heinrich	1980
<i>Coelichneumon</i>	<i>rothneyi</i>		<i>Aglaojoppa</i>	(Cameron)	1902
<i>Coelichneumon</i>	<i>rubricoxa</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>rubroaeneus</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>rudis</i>		<i>Ichneumon</i>	(Fonscolombe)	1847
<i>Coelichneumon</i>	<i>rufibasalis</i>		<i>Ichneumon</i>	(Uchida)	1927
<i>Coelichneumon</i>	<i>ruficauda</i>		<i>Ichneumon</i>	(Wesmael)	1845
<i>Coelichneumon</i>	<i>rufigaster</i>		<i>Coelichneumon</i>	Riedel	2008
<i>Coelichneumon</i>	<i>rufofemoratus</i>		<i>Cyanojoppa</i>	(Cameron)	1903
<i>Coelichneumon</i>	<i>sabahensis</i>		<i>Coelichneumon</i>	Riedel	2013
<i>Coelichneumon</i>	<i>sardinicus</i>		<i>Coelichneumon</i>	Riedel	2012
<i>Coelichneumon</i>	<i>sassacoides</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>sassacus</i>		<i>Amblyteles</i>	(Viereck)	1917
<i>Coelichneumon</i>	<i>scutellaris</i>		<i>Coelichneumon</i>	Uchida	1927
<i>Coelichneumon</i>	<i>semilaevis</i>		<i>Ichneumon</i>	(Cresson)	1864
<i>Coelichneumon</i>	<i>septenus</i>		<i>Ichneumon</i>	(Townes, Momoi & Townes)	1965
<i>Coelichneumon</i>	<i>shanxiensis</i>		<i>Coelichneumon</i>	Riedel	2008
<i>Coelichneumon</i>	<i>sichuanensis</i>		<i>Coelichneumon</i>	Riedel	2013
<i>Coelichneumon</i>	<i>sillemi</i>		<i>Coelichneumon</i>	Roman	1935
<i>Coelichneumon</i>	<i>similior</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>singularis</i>		<i>Ichneumon</i>	(Berthoumieu)	1892
<i>Coelichneumon</i>	<i>sinister</i>		<i>Ichneumon</i>	(Wesmael)	1848
<i>Coelichneumon</i>	<i>strombus</i>		<i>Pompilus</i>	(Dalla Torre)	1897
<i>Coelichneumon</i>	<i>subviolaceiventris</i>		<i>Ichneumon</i>	(Pic)	1908
<i>Coelichneumon</i>	<i>sugiharai</i>		<i>Coelichneumon</i>	Uchida	1935
<i>Coelichneumon</i>	<i>sugillatops</i>		<i>Coelichneumon</i>	Riedel	2021
<i>Coelichneumon</i>	<i>sugillatorius</i>		<i>Ichneumon</i>	(Linnaeus)	1758
<i>Coelichneumon</i>	<i>taihorinus</i>	<i>taihorinus</i>	<i>Coelichneumon</i>	Uchida	1932
<i>Coelichneumon</i>	<i>taihorinus</i>	<i>nigrifemur</i>	<i>Coelichneumon</i>	Riedel	2013
<i>Coelichneumon</i>	<i>terebrator</i>		<i>Coelichneumon</i>	Riedel & Watanabe	2021
<i>Coelichneumon</i>	<i>terebratus</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>terebrifer</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>tigris</i>		<i>Aglaojoppa</i>	(Heinrich)	1967
<i>Coelichneumon</i>	<i>tonkinensis</i>		<i>Coelichneumon</i>	Riedel	2013
<i>Coelichneumon</i>	<i>torsor</i>		<i>Ichneumon</i>	(Thunberg)	1822
<i>Coelichneumon</i>	<i>tricoloripes</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>uchidai</i>		<i>Coelichneumon</i>	Riedel & Watanabe	2021
<i>Coelichneumon</i>	<i>unicolorata</i>		<i>Aglaojoppa</i>	(Heinrich)	1968
<i>Coelichneumon</i>	<i>validus</i>		<i>Ichneumon</i>	(Berthoumieu)	1894
<i>Coelichneumon</i>	<i>vana</i>		<i>Aglaojoppa</i>	(Heinrich)	1968
<i>Coelichneumon</i>	<i>vehementer</i>		<i>Coelichneumon</i>	Heinrich	1966

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Appendix 1. (Continued)

Subgenus	Species	Subspecies	Original genus	Author	Year
<i>Coelichneumon</i>	<i>victorianus</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Coelichneumon</i>	<i>viola</i>		<i>Ichneumon</i>	(Cresson)	1864
<i>Coelichneumon</i>	<i>violaceipennis</i>		<i>Aglaojoppa</i>	(Cameron)	1903
<i>Coelichneumon</i>	<i>viridissimus</i>		<i>Coelichneumon</i>	Morley	1915
<i>Coelichneumon</i>	<i>vitalis</i>		<i>Ichneumon</i>	(Cresson)	1877
<i>Coelichneumon</i>	<i>walleyi</i>		<i>Coelichneumon</i>	Heinrich	1961
<i>Coelichneumon</i>	<i>yezoensis</i>		<i>Coelichneumon</i>	Matsumura	1912
<i>Coelichneumon</i>	<i>zwakhalsi</i>		<i>Coelichneumon</i>	Riedel	2012
<i>Exephanides</i>	<i>abnormis</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Exephanides</i>	<i>exephanopsis</i>	<i>exephanopsis</i>	<i>Coelichneumon</i>	Heinrich	1934
<i>Exephanides</i>	<i>exephanopsis</i>	<i>burmae</i>	<i>Coelichneumon</i>	Heinrich	1966
<i>Exephanides</i>	<i>neotypus</i>		<i>Coelichneumon</i>	Heinrich	1966
<i>Exephanides</i>	<i>nigropropodealis</i>		<i>Coelichneumon</i>	Riedel	2023
<i>Exephanides</i>	<i>pseudoneotypus</i>		<i>Coelichneumon</i>	Riedel	2013
<i>Exephanides</i>	<i>strigosa</i>		<i>Cratojoppa</i>	(Morley)	1915
<i>Intermedichneumon</i>	<i>fulvibasalis</i>		<i>Coelichneumon</i>	Uchida	1932
<i>Intermedichneumon</i>	<i>futasujii</i>		<i>Melanichneumon</i>	(Uchida)	1932
<i>Intermedichneumon</i>	<i>geminus</i>		<i>Coelichneumon</i>	Heinrich	1967
<i>Intermedichneumon</i>	<i>ocellus</i>		<i>Ichneumon</i>	(Tosquinet)	1903
<i>Intermedichneumon</i>	<i>penicillatus</i>		<i>Coelichneumon</i>	Heinrich	1967
<i>Intermedichneumon</i>	<i>scopator</i>		<i>Coelichneumon</i>	Riedel	2017
<i>Intermedichneumon</i>	<i>superomediae</i>		<i>Coelichneumon</i>	Riedel	2017
<i>Taphanes</i>	<i>bacillus</i>		<i>Coelichneumon</i>	Heinrich	1967
<i>Taphanes</i>	<i>dolichopsis</i>	<i>dolichopsis</i>	<i>Taphanes</i>	(Heinrich)	1934
<i>Taphanes</i>	<i>dolichopsis</i>	<i>victoriae</i>	<i>Coelichneumon</i>	Heinrich	1967
<i>Taphanes</i>	<i>multimaculatus</i>		<i>Tanyphatnus</i>	(Cameron)	1905
<i>Taphanes</i>	<i>rufiventris</i>		<i>Taphanes</i>	(Cameron)	1903

Appendix 2. List of plant species at the sampling site on the Mt. Lasha, Laming district, Yunnan Province, P. R. China

Family	genus	species	note
Aceraceae	<i>Acer</i>	<i>Acer griseum</i>	shrub
Amaranthaceae	<i>Alternanthera</i>	<i>Alternanthera philoxeroides</i>	herbaceous
Amaranthaceae		<i>Alternanthera philoxeroides</i>	herbaceous
Apiaceae	<i>Apium</i>	<i>Apium graveolens</i>	herbaceous
Apocynaceae	<i>Tabernaemontana</i>	<i>Tabernaemontana divaricata</i>	shrub
Asteraceae	<i>Scabiosa</i>	<i>Scabiosa atropurpurea</i>	herbaceous
Asteraceae	<i>Scabiosa</i>	<i>Scabiosa japonica</i>	herbaceous
Asteraceae	<i>Bidens</i>	<i>Bidens pilosa</i>	herbaceous
Asteraceae	<i>Elephantopus</i>	<i>Elephantopus scaber</i>	herbaceous
Asteraceae	<i>Artemisia</i>	<i>Artemisia spp.</i>	herbaceous
Asteraceae	<i>Chrysanthemum</i>	<i>Chrysanthemum morifolium</i>	herbaceous
Asteraceae	<i>Chrysanthemum</i>	<i>Chrysanthemum indicum</i>	herbaceous
Asteraceae	<i>Leucanthemum</i>	<i>Leucanthemum vulgare</i>	herbaceous
Asteraceae	<i>Hieracium</i>	<i>Hieracium pilosella</i>	herbaceous
Asteraceae	<i>Sonchus</i>	<i>Sonchus oleraceus</i>	herbaceous
Asteraceae	<i>Eupatorium</i>	<i>Eupatorium fortunei</i>	herbaceous
Asteraceae	<i>Bidens</i>	<i>Bidens pilosa</i>	shrub
Betulaceae	<i>Alnus</i>	<i>Alnus glutinosa</i>	shrub
Betulaceae	<i>Betula</i>	<i>Betula alnoides</i>	shrub
Brassicaceae	<i>Lepidium</i>	<i>Lepidium bonariense</i>	herbaceous
Brassicaceae	<i>Capsella</i>	<i>Capsella bursa-pastoris</i>	herbaceous
Caprifoliaceae	<i>Salvia</i>	<i>Salvia miltiorrhiza</i>	herbaceous
Caprifoliaceae	<i>Bupleurum</i>	<i>Bupleurum griffithii</i>	herbaceous
Caryophyllaceae	<i>Arenaria</i>	<i>Arenaria serpyllifolia</i>	herbaceous
Caryophyllaceae	<i>Petrorhagia</i>	<i>Petrorhagia prolifera</i>	herbaceous
Caryophyllaceae	<i>Petrorhagia</i>	<i>Petrorhagia saxifraga</i>	herbaceous
Euphorbiaceae	<i>Croton</i>	<i>Croton tiglium</i>	herbaceous
Euphorbiaceae	<i>Sapium</i>	<i>Sapium sebiferum</i>	shrub
Fabaceae	<i>Ornithopus</i>	<i>Ornithopus sativus</i>	herbaceous
Fabaceae	<i>Vigna</i>	<i>Vigna angularis</i>	herbaceous
Fabaceae	<i>Cassia</i>	<i>Cassia tora</i>	herbaceous
Fabaceae	<i>Cassia</i>	<i>Cassia fistula</i>	shrub
Fabaceae	<i>Flemingia</i>	<i>Flemingia congesta</i>	shrub
Gentianaceae	<i>Gentiana</i>	<i>Gentiana scabra</i>	herbaceous
Lamiaceae	<i>Clinopodium</i>	<i>Clinopodium chinense</i>	herbaceous
Lamiaceae	<i>Meehania</i>	<i>Meehania urticifolia</i>	herbaceous
Lichenaceae	<i>Lichen</i>	<i>Lichen</i>	herbaceous
Liliaceae	<i>Narcissus</i>	<i>Narcissus spp.</i>	herbaceous
Liliaceae	<i>Agapanthus</i>	<i>Agapanthus africanus</i>	herbaceous
Malvaceae	<i>Hibiscus</i>	<i>Hibiscus rosa-sinensis</i>	herbaceous
Malvaceae	<i>Abutilon</i>	<i>Abutilon theophrasti</i>	herbaceous
Meliaceae	<i>Melia</i>	<i>Melia azedarach</i>	shrub
Moraceae	<i>Acer</i>	<i>Acer pensylvanicum</i>	herbaceous
Oxalidaceae	<i>Oxalis</i>	<i>Oxalis corniculata</i>	herbaceous
Plantaginaceae	<i>Plantago</i>	<i>Plantago asiatica</i>	herbaceous
Poaceae	<i>Phalaris</i>	<i>Phalaris canariensis</i>	herbaceous
Poaceae	<i>Panicum</i>	<i>Panicum virgatum</i>	herbaceous
Poaceae	<i>Phalaris</i>	<i>Phalaris arundinacea</i>	herbaceous
Poaceae	<i>Phalaris</i>	<i>Phalaris tuberosa</i>	herbaceous
Poaceae	<i>Elymus</i>	<i>Elymus chinensis</i>	herbaceous
Poaceae	<i>Panicum</i>	<i>Panicum miliaceum</i>	herbaceous
Poaceae	<i>Panicum</i>	<i>Panicum miliaceum</i>	herbaceous
Poaceae	<i>Setaria</i>	<i>Setaria faberi</i>	herbaceous
Poaceae	<i>Echinochloa</i>	<i>Echinochloa crus-galli</i>	herbaceous
Poaceae	<i>Bambusa</i>	<i>Bambusa tuldoidea</i>	shrub
Poaceae	<i>Bambusa</i>	<i>Bambusa multiplex</i>	shrub
Polygonaceae	<i>Fallopia</i>	<i>Fallopia japonica</i>	herbaceous

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Appendix 2. (Continued)

Family	genus	species	note
Polypodiaceae	<i>Polypodium</i>	<i>Polypodium vulgare</i>	herbaceous
Polypodiaceae	<i>Pteridium</i>	<i>Pteridium aquilinum</i>	herbaceous
Polypodiaceae	<i>Polystichum</i>	<i>Polystichum aculeatum</i>	herbaceous
Rosaceae	<i>Rosa</i>	<i>Rosa</i> spp.	herbaceous
Rosaceae	<i>Rubus</i>	<i>Rubus idaeus</i>	herbaceous
Rosaceae	<i>Fragaria</i>	<i>Fragaria vesca</i>	herbaceous
Rosaceae	<i>Rubus</i>	<i>Rubus parvifolius</i>	shrub
Rosaceae	<i>Rhododendron</i>	<i>Rhododendron fortunei</i>	shrub
Rosaceae	<i>Sorbus</i>	<i>Sorbus reducta</i>	shrub
Rosaceae	<i>Cotoneaster</i>	<i>Cotoneaster delavayi</i>	shrub
Rubiaceae	<i>Spermacoce</i>	<i>Spermacoce articularis</i>	herbaceous
Rubiaceae	<i>Anagallis</i>	<i>Anagallis arvensis</i>	herbaceous
Rubiaceae	<i>Rubia</i>	<i>Rubia cordifolia</i>	herbaceous
Rubiaceae	<i>Galium</i>	<i>Galium aparine</i>	herbaceous
Rubiaceae	<i>Uncaria</i>	<i>Uncaria rhynchophylla</i>	shrub
Rubiaceae	<i>Hedyotis</i>	<i>Hedyotis corymbosa</i>	shrub
Rutaceae	<i>Zanthoxylum</i>	<i>Zanthoxylum bungeanum</i>	shrub
Sapindaceae	<i>Acer</i>	<i>Acer negundo</i>	shrub
Sapindaceae	<i>Acer</i>	<i>Acer pentaphyllum</i>	shrub
Saururaceae	<i>Saururus</i>	<i>Saururus chinensis</i>	shrub
Solanaceae	<i>Datura</i>	<i>Datura stramonium</i>	shrub
Sphagnaceae	<i>Sphagnum</i>	<i>Sphagnum</i> spp.	herbaceous
Urticaceae	<i>Boehmeria</i>	<i>Boehmeria nivea</i>	herbaceous
Vitaceae	<i>Ampelopsis</i>	<i>Ampelopsis brevipedunculata</i>	herbaceous
